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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P02069WO.1P	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE2003/003167	International filing date (<i>day/month/year</i>) 23 September 2003 (23.09.2003)	Priority date (<i>day/month/year</i>) 07 October 2002 (07.10.2002)
International Patent Classification (IPC) or national classification and IPC H04B 10/18		
Applicant DEUTSCHE TELEKOM AG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 16 April 2004 (16.04.2004)	Date of completion of this report 25 January 2005 (25.01.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE2003/003167

I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

☒ the international application as originally filed.

☒ the description, pages 1-24, as originally filed,
 pages _____, filed with the demand,
 pages _____, filed with the letter of _____,
 pages _____, filed with the letter of _____.

☒ the claims, Nos. 1-22, as originally filed,
 Nos. _____, as amended under Article 19,
 Nos. _____, filed with the demand,
 Nos. _____, filed with the letter of _____,
 Nos. _____, filed with the letter of _____.

☒ the drawings, sheets/fig 1/3-3/3, as originally filed,
 sheets/fig _____, filed with the demand,
 sheets/fig _____, filed with the letter of _____,
 sheets/fig _____, filed with the letter of _____.

2. The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/fig _____

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	6, 8, 14-15, 20-22	YES
	Claims	1-5, 7, 9-13, 16-19	NO
Inventive step (IS)	Claims		YES
	Claims	1-22	NO
Industrial applicability (IA)	Claims	1-22	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following document:

D1: US5793917

1. The present application does not satisfy the requirements of PCT Article 33(1) because the subject matter of claims 1 to 5, 7, 9 to 13 and 16 to 19 is not novel (PCT Article 33(2)).

The reasons are as follows:

Claim 1

D1 discloses (the references in parentheses relate to D1) apparatus for the control of chromatic dispersion in an optical transmission system, which apparatus

- has an optical element exhibiting temperature-dependent chromatic dispersion (unit 10 in figure 3), and
- a device for the control of the temperature or temperature distribution of at least one region of the optical element in order to provide predefined chromatic dispersion of the optical element (column 3, lines 34 to 57; units 11, 12 and 13 in figure 3;

figures 12 and 13).

Claim 9

The arguments presented above for claim 1 also apply to claim 9.

Claim 16

The arguments presented above for claim 1 also apply to method claim 16.

Claims 2 to 5, 7, 10 to 13 and 17 to 19

The features described by dependent claims 2 to 5, 7, 10 to 13 and 17 to 19 are already known from D1; see column 3, line 34 to column 4; column 12, lines 5 to 41; column 12, lines 55 to 67; and figures 3 and 11 to 13.

2. The present application does not satisfy the requirements of PCT Article 33(1) because the subject matter of claims 6, 8, 10, 14 to 15 and 19 to 22 does not involve an inventive step (PCT Article 33(3)).

The reasons are as follows:

Claim 8

D1 is considered to be the prior art closest to the subject matter of claim 8. Said document discloses (the references in parentheses relate to D1) apparatus for the control of chromatic dispersion as already described above, characterised by at least two optical elements exhibiting temperature-dependent chromatic dispersion (the repeater elements in figures 5 and 15), with a common

device for the control of temperature (unit 52 in figure 15).

The subject matter of claim 8 therefore differs from the apparatus known from D1 in that there is only one common device for the control of temperature in D1.

The problem of interest to a person skilled in the art would therefore be that of maintaining chromatic dispersion in two parallel optical transmission systems efficiently and at the same level.

The connection of a second optical transmission system and the transmission terminal in D1 (unit 10 in figure 11) is, however, considered to be a technical measure that can be expected of a person skilled in the art of light-wave communications.

This technical feature, which is described in claim 8, does not therefore involve an inventive step.

Claims 6, 14 to 15, 20 to 22

Dependent claims 6, 14 to 15 and 20 to 22 do not contain any features which in combination with the features of any claim to which they refer back meet the PCT requirements for novelty and inventive step; see D1: column 14, lines 17 to 44, and the relevant passages cited in the search report.